

WHAT IS CLAIMED IS:

1. An optical sensor arrangement, comprising:

a transmitter that emits light rays;

a receiver that receives light rays reflected from an object and having an output producing receiving signals;

a deflection unit to deflect the transmitted light rays to periodically sweep across a monitoring range;

an evaluation unit coupled to the transmitter and the receiver unit and storing parameters of several safety zones that form respectively predetermined areas of the monitoring range, wherein an object detection signal is generated in the evaluation unit in dependence on the receiving signals at the receiver output, which object detection signal indicates whether or not an object is located within an activated one of the safety zone; and

a communication interface coupled to the evaluation unit and operative for bi-directional data transmission with an external unit, wherein at least one of the stored safety zones is activated by reading into the evaluation unit activation signals from the external unit via the communication interface.

2. The optical sensor according to claim 1, wherein the communication interface is a serial interface.

3. The optical sensor according to claim 1, wherein the communication interface is a bus interface.

4. The optical sensor according to claim 1,

5. The optical sensor according to claim 1, wherein the communication interface is adapted for a non-contacting data transmission with the external unit.

6. The optical sensor according to claim 5, wherein the data are transmitted in the form of optical signals.

7. The optical sensor according to claim 5, wherein the data are transmitted in the form of radio signals.

8. The optical sensor according to claim 1, wherein the activation signals are supplied to the evaluation unit via the communication interface and an error-free data transmission.

9. The optical sensor according to claim 8, wherein the activation signals include an identification characteristic that is respectively assigned to one stored safety zone.

10. The optical sensor according to claim 9, wherein the evaluation unit emits a feedback signal via the communication interface in response to an activation signal.

11. The optical sensor according to claim 10, wherein an error message is generated in an external unit that is connected to the communication interface in the event that no feedback is received within a predetermined time interval for the transmitted activation signal.

12. The optical sensor according to claim 10, wherein the feedback signal functions to acknowledge an activation signal.

13. The optical sensor according to claim 10, wherein the feedback signal indicates the activation of a safety zone in the

evaluation unit, which occurred in dependence on the assigned activation signal.

14. The optical sensor according to claim 1, wherein activated safety zones are switched by means of the activation signals.

15. The optical sensor according to claim 1, wherein parameter data can be transmitted via the communication interface.

16. The optical sensor according to claim 15, wherein the contours of the safety zones form the parameter data.